

1.01	INSTRUMENT PROVING OR CALIBRATING	1.43	..Chronometer (e.g., clock, watch, or watch unbalance)
1.02	..Gas or liquid analyzer	1.44	...Using antenna or radio frequency (RF)
1.03	..Reference standard	1.45	...Using optical sensor or element
1.04	...Permeable outlet or flawed element	1.46	....With sound sensor
1.05	...Piston, sprayer, nozzle, or orifice	1.47	....Resilient element
1.06	..Gas	1.48	...Using sound sensor or piezoelectric vibration sensor
1.07	...Span or zero	1.49	....Plural watches or plural sensors
1.08	..Dynamometer	1.51	....Resilient element
1.09	..Torque	1.52	...Plural watches
1.11	..Electrical	1.53	...With resilient element
1.12	..Wrench	1.54	....Coil spring
1.13	..Weight	1.55	.....Plural coil springs
1.14	..Rotor unbalance or a roller having a smooth surface	1.56	..Optical instrument (e.g., camera shutter) or optical sensor
1.15	..Load cell (e.g., strain gauge or piezoelectric sensor)	1.57	..Fluid pressure
1.16	..Volume of flow, speed of flow, volume rate of flow, or mass rate of flow	1.58	..Vacuum
1.17	..Plug with leak detector	1.59	..With signal correction or processing
1.18	..Sphere	1.61	...Span
1.19	..Piston	1.62	...Zero
1.21	...With plural pistons	1.63	...With reference source or attachment therefor
1.22	...With magnetic or optical sensor	1.64	....Varying
1.23	...With position sensing switch	1.65	..Dead weight type
1.24	..Tracer	1.66	..Varying
1.25	..Orifice or restriction	1.67	...Using or containing liquid
1.26	...Nozzle or venturi	1.68	..With piston and cylinder
1.27	..Turbine, geared meter, pulse activated, or counter	1.69	..Using or containing liquid
1.28	...Turbine or geared meter	1.71	..Pressure activated device
1.29	..Anemometer or pitot tube	1.72	...Valve
1.31	..With liquid level monitor or timer	1.73	..Liquid level or volume measuring apparatus
1.32	...Prover bell	1.74	..Volumetric dispenser (e.g., pipette)
1.33	..With floating element or weighing	1.75	..Angle, direction, or inclination
1.34	..With signal processing, span or set point adjustment (e.g., zero correction)	1.76	..Compass
1.35	..With pressure measurement or plural flowmeters	1.77	..Gyroscope
1.36	..Metering dispenser	1.78	..Aircraft, inertial navigation, or attitude
1.37	..Speed, velocity, or acceleration	1.79	..Displacement, motion, distance, or position
1.38	..Acceleration utilizing an inertial element	1.81	..Length, width, or height
1.39	...Involving pendulum or impact	1.82	..Apparatus for measuring by use of vibration or apparatus for measuring vibration (e.g., acoustic or ultrasonic)
1.41	..Optical or magnetic sensing	1.83	..Liquid
1.42	..Timing apparatus (e.g., fuse, camera, or shutter)		

1.84	..Rotary or rotor unbalance	19.03	.By vibration
1.85	..Seismic (e.g., geophone) or with optical sensor	19.04	.By rate of flow of the gas
1.86	..Reference standard detail	19.05	.By pressure of the gas
1.87	.Centrifuge	19.06	..Of a beverage
1.88	.Span or set point adjustment (e.g., zero correction)	19.07	.Of metal
1.89	.Roughness or hardness	19.08	.Of concrete, mortar, or plastic while in a fluent state
7	BY ABRASION, MILLING, RUBBING, OR SCUFFING	19.09	.Of mud
8	.Wheel tread, tire, track, or roadway	19.1	.Of a liquid
9	FRictional RESISTANCE, COEFFICIENT OR CHARACTERISTICS	19.11	..Lubricant
10	.Lubricant testing	19.12	.Particular separator
11.01	TESTING IMPACT DELIVERING DEVICE (E.G., A HAMMER)	23.2	GAS ANALYSIS
11.02	.Shot peener	23.21	.With compensation detail (for error or drift correction, etc.)
11.03	.Pile driving hammer	23.22	..For gas chromatography
11.04	TESTING OF SHOCK ABSORBING DEVICE (E.G., AUTOMOBILE SHOCK ABSORBER, GUN RECOIL APPARATUS, ETC.)	23.23	...Baseline drift correction circuitry
11.05	.Torsional vibration damper	23.24	...Rate of flow
11.06	.Railway draft gear	23.25	...Temperature
11.07	.In situ vehicle suspension	23.26	....Gradient
11.08	..By applying reciprocating or oscillating motion	23.27	...Pressure
11.09	.By applying reciprocating or oscillating motion	23.28	..For density or specific gravity
12.01	TESTING BY IMPACT OR SHOCK	23.29	...Pressure
12.02	.Resilient ball (e.g., golf ball, baseball, etc.)	23.3	.Breath analysis
12.03	.Typewriting ribbon or carbon paper	23.31	.Gas of combustion
12.04	.Accelerated or decelerated specimen (e.g., propelled or dropped specimen support carriage)	23.32	..Air-fuel ratio
12.05	..Particle or projectile specimen	23.33	...Solid content
12.06	..Dropped	23.34	.Odor
12.07	..By hydraulic or pneumatic forces	23.35	.Gas chromatography
12.08	.Specimen directly subjected to a fluid pressure pulse or wave	23.36	..With electrical computer or data processor control
12.09	.Specimen impactor detail	23.37	..With spectrometer
12.11	..Particle or projectile	23.38	..Petrochemical
12.12	..Reciprocating or oscillating	23.39	..Column detail
12.13	..Dropped	23.4	..Detector detail
12.14	...Pivoted	23.41	..Including sample preparation or sampling
19.01	GAS CONTENT OF A LIQUID OR A SOLID	23.42	..Detail of gas handling means
19.02	.By gas chromatography	24.01	.By vibration
		24.02	..Produced by radiant energy
		24.03	..Solid content of gas
		24.04	..Moisture content or vapor pressure of gas
		24.05	..Density or specific gravity of gas
		24.06	..Detector detail
		25.01	.By thermal property
		25.02	..With magnetic property (e.g., paramagnetic gas)
		25.03	..Thermoconductivity
		25.04	..Moisture content or vapor pressure

25.05	..Detector detail	441	.Portable hand manipulable syringe type
28.01	.Solid content of gas	442	..With thermometer
28.02	..Particle charging	443	...With calculator
28.03	..Pressure	444	.Freely vertical reciprocable float with carried indicium
28.04	..Separator detail	445	..Continuous test fluid supply
28.05	...Impactor	446	..With section means
28.06	....Fractionalizing	447	..With liquid level responsive gauge or compensator
29.01	.Moisture content or vapor pressure	448	..Float structure
29.02	..Hygrometer	449	...With carried thermometer or thermal compensator
335.01	..With optical element	450	...Specimen carrying
335.02	..With electric circuitry or electric circuit component detail	451	.Float operated indicator
335.03	....Impedance	452	..Continuous test fluid supply
335.04	.....Capacitance	453	..Electrical indication
335.05	.....Resistance or conductivity	454	..Pivoted float
335.06	...Wet and dry responsive elements	32 A	.Involving vibration of substance or the measuring apparatus
335.07	....With direct readout or calculator detail	35.01	ENGINE DETONATION (E.G., KNOCK)
335.08	....Wet bulb detail	35.02	.Fuel rating (e.g., octane rating)
335.09	.....Relative air motion creating means (e.g., sling psychrometer)	35.03	.Combustion signal compared to reference signal varied by a condition of the engine
335.11	...Expanding-sorption element	35.04	..Including calculation means
335.12	....Coiled or twisted	35.05	..Automatic gain control or feedback control
335.13	....Arcuate or elongated	35.06	.Combustion signal compared to a fixed reference signal or utilizing a threshold value
335.14	....Tensioned	35.07	.Specific type of detonation sensor
29.03	..Pressure	35.08	..Ionization
29.04	..With visual indication	35.09	..Vibration
29.05	..Detector detail	35.11	...Piezoelectric
30.01	.Density or specific gravity	35.12	..Pressure
30.02	..By pressure measurement	35.13	...Piezoelectric
30.03	..By rate of flow	35.14	EXPLOSIVE
30.04	..Detector detail	35.15	.By time measurement (e.g., burning rate, detonation velocity)
31.01	.Ambient air	35.16	.Electric sensor
31.02	..Impurity	35.17	.Safety feature or containment structure
31.03	.Impurity	36	ILLUMINATING FLUID
31.04	.Pressure	37	WITH FLUID PRESSURE
31.05	.Detector detail	37.5	.Dimension, shape, or size
31.06	..Semiconductor	37.6	..Moving specimen
31.07	.Particular separator	37.7	...Sheet or filament
32 R	SPECIFIC GRAVITY OR DENSITY OF LIQUID OR SOLID	37.8	..Plural tests
433	.With weighing feature	37.9	..Internal gauging
434	..Continuous test fluid supply	38	.Porosity or permeability
435	..Plural supports for specimen		
436	...Vertically, commonly suspended		
437	..Immersion		
438	..Hydrostatic pressure type		
439	..Bubble tube		
440	.Multiple floats of graduated density		

39	.Fluid pressure brake system or unit	54.04	..Friction tube (e.g., capillary)
40	.Leakage	54.05	...Plural tubes
40.5 R	..Fluid handling conduit in situ	54.06	....By pressure measuring
40.5 A	...Using acoustic detectors	54.07	...By time interval of travel or flow rate measuring
40.7	..By probe gas, vapor, or powder	54.08	....Including a photocell
41	..Conveyor feed	54.09	...By pressure measuring
41.2	...With immersion	54.11	..Orifice, nozzle, or extrusion means
41.3	....Defective article discard	54.12	...Plural fluids (e.g., comparison)
41.4	.....Automatic	54.13	...By time interval of travel or flow rate measuring
45	...With defective article discard	54.14	...By force, pressure, or displacement measuring
45.1	....Automatic	54.15	..Gravity movement of an object in a liquid (e.g., a bubble)
45.2	.....Electrically controlled	54.16	...With detail of temperature or pressure regulating or compensating means
45.3	.....Vacuum support failure	54.17	...Using a reference fluid
45.4	.....Sealed receptacle	54.18	...With means for restoring an object to its initial starting position (e.g., magnetic or fluid means)
45.5	..With immersion	54.19	...Including detail of a timing detection circuit
45.6	...Pneumatic tire	54.21	...Including an object concentricity guide means
45.7	....Mesh envelope	54.22	..Adhesion between wetted surfaces
45.8	...Radiator	54.23	..Force reactance to member driven therein
46	..Between fitted parts (e.g., joints)	54.24	...By vibration
47	...Piston, piston ring, or engine valve	54.25	....Dampening effect (e.g., frequency, amplitude, speed, or power measurement)
48	...Tire valve	54.26	....With detail of a drive means or a detecting means
49	..Pneumatic tire	54.27	...With detail (e.g., circuitry) of a drive means or a detecting means
49.1	..Pipe	54.28	...Rotationally driven member
49.2	..Receptacle	54.29	....Comparator
49.3	...Sealed	54.31	...By measuring the driving force or the speed of the driven member
49.4	..With ram pressure inducer	54.32	...By measuring an opposed drag force
49.5	..Pipe	54.33	....By measuring angular displacement
49.6	..With power-operated closure or seal	54.34	....By measuring a counterbalance or restoring force
49.7	..Motor part or auxiliary		
49.8	..Clamp, plug, or sealing feature		
52	TESTING SEALED RECEPTACLE		
53.01	LIQUID ANALYSIS OR ANALYSIS OF THE SUSPENSION OF SOLIDS IN A LIQUID		
53.02	..Butter fat content		
53.03	..Paper or wood suspension (e.g., paper or wood pulp)		
53.04	..By measuring fluid flow characteristic (e.g., by volume or rate of flow or by change in fluid level)		
53.05	..Lubricant testing		
53.06	..By analyzing a characteristic of a measuring surface		
53.07	..By solid content		
54.01	..Viscosity		
54.02	..Combined with other measuring means		
54.03	..Of concrete (e.g., slump indicator)		

54.35	....Including detail of a motor drive, a stator, or a housing structure of a motor	61.69	....By optical measurement
54.36	...Penetrometer	61.71	..For measuring solid components (e.g., particles)
54.37	...By movement or displacement between shearing surfaces	61.72	...By separation and subsequent measurement (e.g., by weighing, X-ray or microscope, etc.)
54.38	...Detector detail	61.73	...By flowing through barrier or restriction and measuring flow effect (e.g., pressure, volume of or rate of flow)
54.39	..Shearing torque between parallel surfaces	61.74	....Thermal
54.41	..Vibration	61.75	...Vibration
54.42	..Thermal	61.76	..By thermal measurement
54.43	..With detail of a pressure or a temperature regulating means	61.77	...Vaporization (e.g., evaporation, distillation, etc.)
60.11	.Cleaning or foaming ability	61.78	..By pressure measurement
61.41	.Content or effect of a constituent of a liquid mixture	61.79	..By vibration
61.42	..Metallic particle constituent	64.41	.Gelling or coagulation
61.43	..Liquid constituent of a liquid mixture	64.42	..By vibration
61.44	...Plural liquid constituent (e.g., multiphase liquid)	64.43	..By optical measurement
61.45	....By vibration	64.44	.Vapor-liquid ratio
61.46	...By thermal measurement	64.45	.Vapor pressure
61.47	...By pressure measurement	64.46	..Differential pressure
61.48	...By optical irradiation	64.47	.Osmotic pressure (e.g., diffusion characteristic)
61.49	...By vibration	64.48	.Surface tension
61.51	...Buoyant detector	64.49	..By force or torque
61.52	...Chromatography	64.51	..By pressure
61.53	....Column detail	64.52	..Liquid droplet
61.54	....Paper or thin layer type	64.53	.By vibration
61.55	....Including sampling, sample handling, or sample preparation	64.54	.Molecular weight
61.56	....Detail of fluid handling means (e.g., valve, control, etc.)	64.55	.Interface
61.57	....With detail of compensation or regulating means	64.56	.Sampler, constituent separation, sample handling, or sample preparation
61.58	....Detector detail	65.01	CENTER OF GRAVITY; TURNING MOMENT; METACENTRIC HEIGHT
61.59	...With detail of sampling, sample handling, or sample preparation	65.02	.Spherical specimen
61.61	...Detector detail	65.03	.Ball driving sporting implement (e.g., golf club, baseball bat, etc.)
61.62	..Depositing characteristic	65.04	.Watercraft (e.g., metacentric height)
61.63	..Settling or filtering ability	65.05	.Air or space vehicle
61.64	...By volume or flow rate	65.06	..Electric sensor
61.65	...Sedimentation rate	65.07	.Dynamic
61.66	....With means for accelerating solids (e.g., particles)	65.08	..Torsional oscillation
61.67	....By pressure measurement	65.09	.Electric sensor
61.68	....Including detail of fluid handling means, sampling, sample handling, or sample preparation	66	ROTOR UNBALANCE
		455	.Propeller, impeller, or fluid coupling
		456	..Single blade balancing
		457	.In situ

458	..With counterbalancing means	581	..Including axial force determination
459	.Combined static and dynamic		
460	.Dynamic (spinning)	582	..Including structural bond evaluation
461	..Mass centering		
462	..With electrical sensor and indicator	583	..Of aircraft or related structural element
463	...Wattmeter	584	.By mechanical waves
464	...Rotatable switch	585	..Including ear or hearing testing
465	...Oscilloscope (cathode ray)		
466	...Stroboscopically illuminated	586	..Reverberation
467	....Indicator	587	..Acoustic emission
468	..With counterbalancing means	588	..Structural bond evaluation
469	..By radially and circumferentially adjustable weights	589	..Acoustical impedance
470	..By circumferentially adjustable weights	590	..In detection of a liquid reaction, a chemical reaction, or a nuclear reaction
471	..With vibratable mount feature	591	..Listening or sound tube
472	...Free floating rotor	592	..Fluid, fluid leak, or pipe flaw detection
473	...Horizontal axis	593	..Bearing, gear, or related moving mechanism
474	...One rotor end universally tiltable	594	..Soil or building structure
475	...Horizontal rotational axis	595	..Frangible
476	....Horizontal plane of vibration	596	..Beamed
477	.....Both ends free	597	..Velocity or propagation time measurement
478	.....With selective endlock		
479	....Horizontal fulcrum	598	....For flaw or discontinuity detection
480	.Gravitational moment turns rotor about spin axis	599	...Attenuation measurement
481	..Ways	600	....For flaw or discontinuity detection
482	.Gravitational moment tilts rotor about axis transverse to spin axis	601	...Having plural, diverse forms of radiant energy
483	..Universally tiltable	602	...With signal analyzing or mathematical processing
484	..With tapered rotor centering means	603	...Acoustic holography
485	...With expansible or contractible centering means	604	...Having means substituted for reference signal
486	...With suspension means	605	...Liquid or deformable surface holography
487	.Tool and adjunct		
570	VIBRATION	606	...Imaging of discontinuity with stationary sonic transmitter
570.5	.Acoustic levitation	607	....By scan of a sonic receiver
571	.Test chamber	608	....By Bragg diffraction
572	.Loose object detection	609	...Measuring or testing system having threshold, gating, delay, or blocking means
573	.Hardness or compliance		
574	.Mechanical impedance		
575	..Of an elastomer		
576	..Device having an electromagnetic drive	610	....Electronic gating
577	.Fatigue study	611	....Adjustably responsive to information signal
578	..Electromagnetic drive	612	.....Plural gating
579	.Resonance, frequency, or amplitude study	613	.....Of noise
580	..Including weight determination	614	.....Of signals to pass only echoes from within test body

615	.....Of signals to pass only echoes from front surface or flaw and from rear surface of test body	646	...Amplitude, power, or intensity
616	.....Of signals to pass only echoes from rear surface of test body	647	....Current generating or modifying
617	...Having mechanical delay or mechanical blocking	648	.....Frequency sensitive
618	...Measuring or testing system having scanning means	649	.Sensing apparatus
619	....Programmed scan	650	..Torsional
620	....By reflected wave	651	..Vibratable reed
621	.....Having compound scan	652	..With inertia element
622	.....Of tubing, vessel, or cylindrical object	653	...With light beam indicator
623	.....Scan from within object	654	...With electrically controlled indicator
624	.....Having separate sonic transmitter and receiver	655	..With light beam indicator
625	.....Having plural sonic type transmitter or receiver transducers	656	...By optical holography
626	.....Switched	657	...By frequency or phase shift
627	...By reflected wave	658	..With electrically controlled indicator
628	...Having plural sonic type transmitters or receivers transducers	659	...Spectrum analysis
629	...Having unitary sonic type transmitter-receiver transducer	660	...Rotating machinery or device
630	.....Establishing resonance in a test body	661	...Having a probe
631	.....Having automatic gain control	662	.Vibrator
632	...Sonic wave transmitter or receiver transducer	663	..Table, platform, or other support
633	...Having transducer scanning means	664	...Circuitry
634	.....Automatic transducer positioning	665	...Having fluid bearing or fluid pressure actuated
635	.....Rolling contact	666	...Having spring support
636	.....On railroad rails	667	...Eccentrically vibrated
637	.....Around cylindrical object	668	...Electromagnetically vibrated
638	.....Along cylindrical object	669	..Vehicle shaker
639	.....Transducer forms wheel or is within a wheel	670	...Treadmill
640	.....Scanning curved surface in direction of curvature	671	..Having a fluid jet
641	.....Plural sonic transmitters or receivers	672	..Having a rotatable imbalanced mass
642	...Having wave shaping means	73	MOISTURE CONTENT OR ABSORPTION CHARACTERISTIC OF MATERIAL
643	...Nonvibrating transducer	74	.By residual capacity measurement
644	...Having significant coupling means	75	.By heat conductivity
645	..Acoustic parameter	76	.By desiccation or extraction
		77	.By wet and dry bulb temperature
		78	HARDNESS
		79	.Scleroscope or rebound
		81	.By penetrator or indentor
		82	..Impact type
		83	..With successive minor and major load
		84	..Soil bearing capacity
		85	..Penetrator element
		86	EMBRITTLMENT OR EROSION
		87	DUCTILITY OR BRITTLENESS
		760	SPECIMEN STRESS OR STRAIN, OR TESTING BY STRESS OR STRAIN APPLICATION
		761	.Threaded fastener stress

762	.Indicating coating or sheet providing direct visual indication (e.g., cracking, color change)	794	..Plural diverse stress-strain tests or composite loads
763	..Specified electrical sensor or system	795	...Strain
764	..Having level attainment counter	796	...Tension-compression
765	..Compensation (e.g., linearization)	797	....Alternating
766	...Temperature	798	....Hydraulic or pneumatic actuation
767	..Plural sensors at single location (e.g., diverse orientation, plural level)	799	..Specimen cracking or crack propagation
768	..Sensor embedded in specimen	800	..Optical
769	..Coupling circuit for specific additional purpose (e.g., noise suppression) or having specified structure	801	..Acoustic emission
770	...Peak indicating system	802	..Aircraft structure
771	..Having selector switching means	803	..Concrete
772	...Plural sensed signal system	804	..Model of structure to determine structure properties
773	..Specified signal transmitting link	805	..Varied in response to specimen condition other than failure
774	..Specified sensor structure	806	..Varied according to predetermined pattern
775	...Bonded to specimen	807	...Applied directly by fluid pressure
776	....Sensor comprises coating	808	...Repetitive
777	...Semiconductor	809	....Plural specimen
778	..Vibratory element	810	....To failure
779	..Magnetic or inductive	811	....Electric control circuit or particular loading device
780	..Capacitive	812	....Flexing, bending, or folding
781	..Specified load or strain transmission device from specimen to electrical detector	813	....Compressive
782	..Strain multiplier	814	....Torsional
783	..Deformation or change in stress after fracture, cutting, or boring	815	....Shear
784	..Earth stresses	816	...Hydraulic or pneumatic actuation
785	..Prestressed specimen	817	...Motor driven actuating screw
786	..In static structures (e.g., buildings, bridges)	818	..Compressional
787	..Stress or strain history of a specimen without application of a load	819	...Plural specimen or multiaxial loading
788	..By loading of specimen (e.g., strength of material test)	820	...Fluid displacement provides indication
789	..Stress-strain relationship determination	821	...To fracture, crushing, or yield point
790	...Compression	822	...Plastic flow or creep
791	...Graphical output	823	...Residual deformation (e.g., consolidation)
792	....Moving chart	824	...By rotating squeezing element
793	.....Drum	825	...With hydraulic or pneumatic actuation
		826	..Tensile
		827	...Bond test
		828	...Strand or chain test
		829	....By roller
		830	....To failure
		831	...Having specified clamp
		832	....Interior to specimen
		833	....Jaws

834	...To failure	114.01	INTERNAL COMBUSTION ENGINE OR RELATED ENGINE SYSTEM OR ENGINE COMPONENT
835	....Tear		
836	...Pendulum dynamometer		
837	..Hydraulic or pneumatic actuation	114.02	.Irregular combustion (e.g., misfire)
838	..Rupture or burst strength of sheet material by transverse loading	114.03	..By time variation
		114.04	..By speed variation
		114.05	..By acceleration
839	...Including cutting or piercing element	114.06	..By exhaust pressure
		114.07	..By vibration
840	..Hydraulic or pneumatic actuation	114.08	..By ignition measurement
		114.09	..By optical measurement
841	..Shear	114.11	..By torque variation
842	..Bond	114.12	..Having road condition detection
843	..By rotary element	114.13	.Power output
844	...Impact (e.g., pendulum)	114.14	..As horsepower
845	...To fracture or failure	114.15	..As torque
846	...Opposing work holders including specimen	114.16	.Compression (i.e., cylinder pressure)
847	..Torsion	114.17	..As a mean effective pressure
848	...To failure	114.18	..Pressure sensor detail
849	..Bending, flexing, or folding	114.19	...Combined with spark plug
850	...Weld testing	114.21	....Washer type
851	...To failure or fracture	114.22	..Using engine speed
852	...Loading means intermediate stationary end holders or supports	114.23	..Using starter current
		114.24	.Engine acceleration
		114.25	.Engine speed
853	...Having opposite ends of specimen clamped	114.26	.Relative rotational position
		114.27	..With cylinder phase identification
854	...By angular displacement of opposite ends of specimen	114.28	...Piston position
855	.Support, holder, or housing for unspecified type electrical sensing element	114.29	....Using microwave energy
		114.31	.Monitoring intake air system (e.g., air filter)
856	.Specimen clamp, holder, or support	114.32	..Intake flow rate
857	..With hydraulic or pneumatic actuation of grip	114.33	...Using pressure measurement
		114.34	...Using thermal measurement
858	..Winding drum or roller type	114.35	...Using a vortex
859	..With wedging or camming elements contacting specimen	114.36	..Throttle position sensor or idling state detection
		114.37	..Intake air pressure
860	..Opposed pair	114.38	.Fuel system or part thereof
104	SURFACE AND CUTTING EDGE TESTING	114.39	..With vapor vent or purge
105	.Roughness	114.41	..Fuel pump
112.01	TURBINE ENGINE	114.42	..Fuel flow
112.02	.Steam powered	114.43	..Fuel pressure
112.03	.Efficiency	114.44	..Carburetor
112.04	.Output thrust	114.45	..Fuel injector
112.05	.Compressor	114.46	...Spray pattern
112.06	..Surge or stall	114.47	...Needle position
113.01	STEAM OR WATER OPERATED ENGINE; RELATED ENGINE SYSTEM OR ENGINE COMPONENT	114.48	...Volume flow amount
		114.49	...Injector timing
		114.51	...Injector pressure
		114.52	.Fuel consumption

114.53	..Fuel efficiency or economy	118.04	.Marine
114.54	..Remaining fuel (amount or range)	121	BRAKE TESTING
114.55	.Lubricant condition	122	.Slidable platform
114.56	.Lubrication system	123	.Roller or belt wheel support
114.57	..Pressure	124	..Relatively shiftable front and rear wheel supports
114.58	.Electrical system	125	..Inertia type
114.59	..Starter or alternator	126	..With driving effort indication
114.61	..Electronic control unit	127	...Single wheel portable unit
114.62	..Ignition	128	.Road test attachment or adjunct
114.63	...Timing	129	.Vehicle installation
114.64	....Using a tool	130	.Single wheel rotating and resistance measuring means
114.65	....Timing light	131	..Torque measuring lever
114.66	...Distributor	132	.Brake depressor with measuring means
114.67	..For ionization	862	DYNAMOMETERS
114.68	.Cooling system	862.01	.For testing force-biased connections
114.69	.Exhaust system	862.02	..Ski bindings
114.71	..Exhaust gas component analysis	862.03	.For testing relative pulling power (e.g., for contests)
114.72	...For air/fuel ratio	862.041	.Responsive to multiple loads or load components
114.73	..With oxygen sensor	862.042	..Along or about mutually orthogonal axes
114.74	..Exhaust gas recirculation system (EGR)	862.043	...Three dimensional (e.g., x, y, z axes)
114.75	..Catalyst or catalytic converter	862.044	....Using a resistance strain gage
114.76	..Exhaust pressure	862.045	..Using a resistance strain gage
114.77	.Testing of an individual engine part	862.046	..Transducer array (e.g., columns and rows)
114.78	..Piston ring	862.05	..Applied to guidance means
114.79	..Valve train	862.06	..On machine tools
114.81	..Bearing	862.07	..To determine distribution of tensile stress
115.01	VEHICLE DRIVE TRAIN	862.08	.Responsive to torque
115.02	.Transmission	862.09	..By absorption
115.03	..Manual	862.11	...Having plural brake means
115.04	...Clutch	862.12	...Having friction brake means
115.05	.Drive shaft	862.13	....Automatic load control
115.06	.Rear end (e.g., differential)	862.14	...Having fluid brake means
115.07	.Wheel or axle component	862.15	....Air brakes
115.08	..To determine speed	862.16	....Automatic load control
116.01	TEST STAND	862.17	...Having magnetic or electromagnetic brake means
116.02	.For engine	862.18	....Automatic load control
116.03	..Turbine engine	862.191	..During transmission to an external load
116.04	..For an auxiliary component to the engine	862.21	...For making or breaking threaded connections (e.g., torque measuring wrenches)
116.05	..With dynamometer		
116.06	...With vehicle support		
116.07	....On a belt		
116.08	....Vehicle positioning		
116.09	....For a two-wheeled vehicle		
116.11	....For a tracked vehicle		
117.01	VEHICLE CHASSIS		
117.02	.Steering		
117.03	.Suspension system		
118.01	SIMULATING OPERATING CONDITION		
118.02	.Engine specific		
118.03	.Aircraft		

- 862.22With variable capacity or sensitivity
- 862.23With detection of specific torque value or condition (e.g., peak torque)
- 862.24Rate of change
- 862.25Power tongs
- 862.26Bending beam type
- 862.27 ...With recording or totalizing means
- 862.28 ...With electrical computation of horsepower
- 862.29 ...By measuring reaction forces of a prime mover
- 862.31 ...By measuring reaction forces of transmission gearing
- 862.321 ...By measuring elastic deformation of a torque transmitting member
- 862.322With rotary to linear conversion
- 862.323Using a flowing fluid (e.g., using a shaft mounted nozzle and baffle)
- 862.324Using a light sensor
- 862.325Using an electrical sensor
- 862.326Phase angle detection
- 862.327Vernier type
- 862.328By plural toothed or notched sensing means
- 862.329Interlaced teeth
- 862.331Inductance or reluctance sensor
- 862.332Variable air gap in a magnetic core
- 862.333Detecting magnetostrictive or magnetoelastic property
- 862.334Grooved or slotted torsion shaft
- 862.335Magnetic sleeve or layer
- 862.336Particular constituent
- 862.337Capacitance sensor
- 862.338Resistance strain gage
- 862.339With noncontact coupling (e.g., rotary transformer)
- 862.37 ...By measuring the fluid pressure of a hydraulic coupling
- 862.192 ...By measuring angular acceleration
- 862.193 ...By measuring an electrical or magnetic characteristic of a torque delivering electric motor
- 862.194 ...By measuring tension in a drive belt or chain
- 862.195 ...By converting transmitted torque into axial force
- 862.381 ..Responsive to force
- 862.391 ..To determine tension on a flexible element
- 862.41 ...By measuring vibrations (e.g., resonant frequency)
- 862.42 ...By applying a measured tensioning force
- 862.43Racket stringing
- 862.44With winding or reeling means
- 862.451 ...By measuring deflection or a deflecting force
- 862.452For testing racket stringing
- 862.453For testing a drive belt
- 862.454Using a fluid for deflection or force measuring
- 862.46With angular deflection
- 862.471Using an elastically deformable force measuring means
- 862.472With pivoted deflecting member between spaced guides or supports
- 862.473Electrical sensor
- 862.474Resistance strain gage
- 862.392 ...By measuring axial force or stretch
- 862.393 ...Pulling force on an anchoring device
- 862.49 ..To determine axial thrust on a rotating machine element
- 862.51 ..With recording means
- 862.52 ..With variable capacity or sensitivity
- 862.53 ..With detection of specific force value or condition (e.g., peak force)
- 862.541 ..Combined
- 862.55 ...With pressure applying roller (e.g., mill roll)
- 862.56 ...With hoisting means
- 862.57 ...With towing means
- 862.542 ...With jack or press
- 862.543 ...With pumping unit
- 862.581 ..By measuring a fluid pressure
- 862.582 ...Using a load responsive valve or restrictor
- 862.583Pneumatic
- 862.584 ...Using a piston
- 862.59 ..By measuring vibrations (e.g., resonant frequency)

862.61	..By measuring a counterbalancing or restoring force	152.01	BOREHOLE OR DRILLING (E.G., DRILL LOADING FACTOR, DRILLING RATE, RATE OF FLUID FLOW)
862.621	..By measuring elastic deformation	152.02	.Formation logging (e.g., borehole studies of pressure derivatives or of pressure-temperature derivatives)
862.622	...With compensation	152.03	..During drilling
862.623	...Temperature	152.04	...By drill mud analysis
862.624	...Using a light sensor	152.05	..Density, porosity, or permeability
862.625	...Using a specific type of electrical sensor	152.06	...Including oil, gas, or water saturation
862.626	...Inductance or capacitance sensor	152.07	...By a core sample analysis
862.627	...Resistance strain gage	152.08	..Oil, gas, or water saturation
862.628	....Including a specific type of electrical circuit	152.09	...By a core sample analysis
862.629	....Specific type of elastic member	152.11	..By a core sample analysis
862.631	.....Axle or pivot pin	152.12	..Thermal
862.632	.....Flexible element (e.g., beam, plate, or web)	152.13	...With heating or cooling
862.633	.....Parallel	152.14	..With radioactivity measuring
862.634	.....Cantilever	152.15	...With vibration measuring
862.635	.....Closed loop (e.g., ring or tube)	152.16	..With vibration measuring
862.636	...Specific type of elastic member	152.17	..With detail of a borehole wall engaging means
862.637	...Flexible element (e.g., beam, plate, or web)	152.18	.Fluid flow measuring or fluid analysis
862.638	....Parallel	152.19	..During drilling
862.639	....Cantilever	152.21	...Rate of fluid flow
862.641	...Helical or spiral	152.22	...Pressure
862.642	...Closed loop (e.g., ring or tube)	152.23	..With sampling
862.68	..By measuring electrical properties	152.24	...From formation wall
862.69	..By measuring magnetic properties	152.25	....With a filter
862.382	..With detail of overload protection	152.26	....With sealing detail
146	TIRE, TREAD OR ROADWAY	152.27	...Pressure
146.2	.Tire inflation testing installation	152.28	...Downhole
146.3	..By direct fluid pressure reading	152.29	..Rate of fluid flow
146.4	...Telemetric (e.g., indicator on cowl)	152.31	...Plural diverse measuring
146.5	...Electric	152.32	...Vibration
146.8	..Tire stem attachments	152.33	...Thermal
147	WIND TUNNEL: AERODYNAMIC WING AND PROPELLER STUDY	152.34	...Rotary
148	MODEL BASIN AND TESTING TANK	152.35	....Magnetic
149	VOLUMETRIC CONTENT MEASURING	152.36	...Packer or deflector detail
150 R	COATING MATERIAL: INK ADHESIVE AND/OR PLASTIC	152.37	..Steady state fluid flow interruption
150 A	.Bond strength	152.38	...Drawdown or shutin test
		152.39	..Fluid injection into formation
		152.41	...Determining permeability or saturation
		152.42	..Determining relative proportion of fluid constituent
		152.43	.During drilling
		152.44	..Drill depth rate
		152.45	...Electronic processing or electronic recording

- 152.46 ..Downhole measurement
 152.47 ...Vibration
 152.48 ...Force
 152.49 ..Force
 152.51 ..Pressure measurement
 152.52 ..Plural diverse measurements
 152.53 ..With recorder
 152.54 ..Downhole test
 152.55 ..Fluid test
 152.56 ..Free point or stuck point
 152.57 ..Casing or cementing
 152.58 ..Using vibration
 152.59 ..By measurement of response due to force
 152.61 ..Pump test
 152.62 ..With recorder
 156 **STATISTICAL RECORD VERIFYING**
 157 **RECORD STRIP SPROCKET HOLE TESTING**
 158 **HOISTING CABLE AND ROPE**
 159 **SHEET, WOVEN FABRIC OR FIBER**
 160 ..Filament
 161 **SPRING TESTING**
 162 **TOOTHED GEAR**
 163 **COIN**
 164 **MINER'S LAMP**
 167 **ORDNANCE AND PROJECTILE**
 168 **BLOWER, PUMP, AND HYDRAULIC EQUIPMENT**
 169 **FLOUR, DOUGH, OR BREAD**
 172 **ORTHOPEDIC PRESSURE DISTRIBUTION**
 178 R **NAVIGATION**
 179 ..Rate of climb (pressure type)
 180 ..Leeway incidence or side-slip
 181 ..Ship's log
 182 ..Pressure differential type
 183 ..With integrating means
 184 ..Drag type
 185 ...Rotary
 186 ..Vane type
 187 ..Rotary
 178 H ..Helicopter
 178 T ..Take-off and landing monitors
 170.01 **FLUID FLOW DIRECTION (E.G., WIND SOCK, WEATHER VANE, ETC.)**
 170.02 ..Relative to aircraft or watercraft
 170.03 ..Sailboat (e.g., sailing aid)
 170.04 ..Using a drifter or tracer (e.g., smoke)
 170.05 ..Using a fluid actuated alignment device (e.g., wind sock, weather vane, etc.)
 170.06 ..With illumination means or an electro-optical indicator (e.g., beacon or signal lamp)
 170.07 ..With velocity determination
 170.08 ...Electric sensor
 170.09 ..Electric sensor
 170.11 ..With velocity determination
 170.12 ..Thermal
 170.13 ..Acoustic
 170.14 ..Fluid pressure differential
 170.15 ..Thrust or drag force
 170.16 **METEOROLOGY**
 170.17 ..Precipitation (e.g., rain gauge)
 170.18 ..With recorder detail
 170.19 ..With heater or vaporizer
 170.21 ..Sensing accumulated amount (e.g., rain gauge)
 170.22 ...Using a float
 170.23 ...Weight actuated (e.g., tipping bucket)
 170.24 ..Electric disturbance (e.g., lightning)
 170.25 ..Micrometeorite
 170.26 ..Icing condition (e.g., accretion)
 170.27 ..Naturally occurring radiation (e.g., solar radiation)
 170.28 ..Using unmanned, self-controlled airborne instrumentation carrier (e.g., radiosonde)
 170.29 **OCEANOLOGY (E.G., OCEANS, RIVERS, OR LAKES)**
 170.31 ..Surface wave
 170.32 ..Bottom sediment or soil
 170.33 ..Towed probe
 170.34 ..Unattached, self-contained probe with buoyancy controlled level of descent
 861 **VOLUME OR RATE OF FLOW**
 861.01 ..With indirect temperature or density compensation
 861.02 ..Electrical
 861.03 ...Digital
 861.04 ..Of selected fluid mixture component
 861.05 ..By measuring transit time of tracer or tag
 861.06 ..With autocorrelation or cross-correlation detection
 861.95 ..Thermal tracer or tag
 861.07 ..By measuring tracer concentration
 861.08 ..By measuring electrical or magnetic properties
 861.09 ..Ionization type

861.11	..Electromagnetic induction (e.g., Faraday type)	199	..With pressure regulator or demand limit
861.12	...With detecting electrodes	200	..With gas and liquid separator
861.13	....Including permanent magnet or D.C. field	201	..With connection or box
861.14	....For dielectric fluids	202	.Proportional
861.15	....Plural pairs of detecting electrodes	202.5	..Thermal sensing of flow
861.16	....Including electrically interconnected or synchronized input and output circuit	203	..With valved proportioning means
861.17	.....Selective or periodic sampling	204.11	.Thermal type
861.18	.By measuring vibrations or acoustic energy	204.12	..With conduit extending between heat sinks
861.19	..Produced by fluidic oscillator	204.13	..With auxiliary fluid contacting or in heat exchange relation with flow path (e.g., thermodilution)
861.21	..Caused by fluid interaction with obstacle	204.14	..Including digital or pulse measuring circuitry
861.22	...Vortex shedders	204.15	..Including detail of feedback or rebalancing circuitry
861.23	....Acoustic	204.16	...By control of a separate heating or cooling element
861.24	....Movable sensor responsive to vortices	204.17	..With distinct heating circuitry for a self-heated sensor
861.25	..Reflection or scattering of acoustic waves	204.18	..Including response characteristic or condition compensation
861.26	..Deflection of acoustic waves	204.19	...For temperature
861.27	..Transit time of acoustic waves	204.21	..With fluid flow deflector or restrictor (e.g., baffle, constriction)
861.28	...Transmitted along single path	204.22	..With sensor housing
861.29	....In both directions simultaneously	204.23	..Having particular electrical heating, cooling, or thermal sensing element
861.31	...Transmitted along parallel paths	204.24	...Thermoelectric junction
861.32	.By measuring swirl rate imparted by static means	204.25	...Resistive element
861.33	..With turbine in a swirl chamber	204.26	....With substrate carrier (e.g., thin film)
861.34	..Precess type	204.27	....Wire type (e.g., hot wire)
861.351	.Mass flow by imparting angular or transverse momentum to the fluid	861.42	.Using differential pressure
861.352	..Rotated resiliently coupled elements	861.43	..With time integration
861.353	..Reaction turbine or vane	861.44	...By electrical means
861.354	..Coriolis or gyroscopic	861.45	...By mechanical means
861.355	...Vibrated conduit	861.46	....Including pressure applied to liquid column or reservoir
861.356	....Signal processing or analysis details	861.47	..Pressure applied to movable member (e.g., a diaphragm)
861.357	....Drive and sensor element located on straight conduit portion	861.48	...With linearization (e.g., square root extraction)
861.39	.Using an applied fluid jet	861.49	..Pressure applied to liquid column or reservoir
861.41	.By counting drops, bubbles, or particles	861.51	...With linearization
195	.System	861.52	..With restriction
196	..Flow comparing	861.53	...Automatically variable restriction
197	..Compound meter	861.54	....Slotted piston or cylinder
198	.Combined		

861.55	....Cone and ball or disk	861.86	..With fluid directed radially outward
861.56	.....With structure of coupling to indicator	861.87	..With flow direction retained in a plane perpendicular to turbine axis
861.57	.....With structure of float, float tube, or float guide	861.88	...Mechanical coupling to indicator
861.58	....Orifice and tapered plug	861.89	..Axial supply and delivery
861.59	...Including recirculation pump	861.91	...With structure to reduce friction or wear
861.61	...Orifice or flow nozzle	861.92	...With structure of bearing or turbine support structure
861.62	....Adjustable	861.93	...With mechanical coupling to indicator
861.63	...Venturi	861.94	...With magnetic coupling drive assembly
861.64	....Inlet or outlet structure	232	.Expansible chamber
861.65	..Pitot	233	..With variable indicator drive
861.66	..Sensing at plural transverse locations	234	..Wet type (e.g., liquid seal)
861.67	...Adjustable	235	...Rotary drum
861.68	...With heating element	236	...Oscillating bell or drum
861.69	..Centrifugal	237	...Reciprocating bell
215	.Weir type	238	...Nutating bell
216	..Submerged orifice or discharge nozzle	239	..Reciprocating piston or cylinder
	.Tank type	240	...Transversely reciprocating piston and cylinder
217	..Rotary tank or bucket	241	...Oscillating cylinder
218	...With power drive	242	...Valveless
219	..Plural measuring chamber	243	...Duplex
220	...With fluid-pressure operated valve	244	....Wobble plate or cam
221	...With float operated valve	245	....With transverse shaft
222	...With siphon discharge	246	.....With single distributing valve
223	..Single measuring chamber	247	...Radial cylinder
224	...With float operated valve	248	...Valved piston
225	....With trip gear	249	...With fluid actuated valve
226	...With siphon discharge	250	...With piston or rod actuated valve gear
227	.Area-velocity integrating	251	....With trip gear
861.71	..By measuring thrust or drag forces	252	..Oscillating piston
861.72	..By changing fluid direction	253	..Rotary piston or cylinder
861.73	..Impact of particulate material	254	...With compensating bypass
861.74	..On a vane	255	...With orbital movement
861.75	...With rotation about a fixed axis	256	....Plural stationary abutment
861.76	....Spring biased	257	....Single stationary abutment
861.77	..Using rotating member with particular electrical output or circuit	258	....Nutating piston
861.78	..With pick-up coil	259	...With sliding vane
861.79	..Using turbine	260	...With swinging vane
861.81	..With response modification	261	...With interengaging pistons
861.82	...Pressure responsive valve or restriction	262	..Diaphragm or collapsible wall
861.83	...Axial supply and delivery	263	...Multiple diaphragm
861.84	....Differentially responsive turbines	264	....Duplex
861.85	..Anemometers	265	....With rotary valve

266	.....Crank operated	319	..Vertically reciprocable
267	.....With flag rod	320	...With spiral cam or guide
268	...With oscillating or reciprocating valve	321	...With flexible cable transmission
269	...Single diaphragm	322	...Indicator stem attached
270	...With diaphragm actuated valve trip gear	322.5	..Float structure
271	...With fluid actuated valve	323	.Sight glass
272 R	..Element	324	..With cleaner
273	..Casing	325	..With guard or casing
274	...Diaphragm meter type	326	...Boiler type
275	..Antireversing mechanism	327	..Reflector or magnifier
276	..Check valve	328	..Boiler type
277	.. "Frostproof" construction	329	...Duplex or multiple section
278	..Diaphragm mounting	330	...Transparent closure plate type
279	..Diaphragm	331	....Bull's eye type
280	...With oiling structure	332	...With valve
281	..Tangent adjustment	333	....Safety feature
272 A	..With remote register	334	..Transparent closure plate type
290 R	LIQUID LEVEL OR DEPTH GAUGE	290 B	.Ullage volume
291	..With other measuring device	290 V	.Vibratory type
292	..Thermometer	379.01	MUSCULAR FORCE (E.G., STRENGTH TESTING, EXERCISING OR TRAINING EFFORT, ETC.)
293	..With illumination	379.02	.Jaw or hand (e.g., gripping, pinching, or biting)
294	..With funnel or hose nozzle	379.03	..Using a resilient force-resister
295	..Thermal type	379.04	.Impact
296	..Weighing type	379.05	..Using a resilient force-resister
297	..Test cock type	379.06	.Including a rotary element with a braking means (e.g., friction brake)
298	..Exploring tube	379.07	..Pedal driven (e.g., cycle ergometer)
299	..Hydrostatic pressure type	379.08	.Using a resilient force-resister
300	..Bathometer type	379.09	.Using hydraulic or pneumatic force-resister
301	..With electrically controlled indicator	382 R	GRAVITATIONAL DETERMINATION
302	..With fluid displacement or replenishment	383	.Torsion balance
303	...Suction type or vacuum tank action	382 G	.Gravitational variation
304 R	..Immersible electrode type	488	SPEED, VELOCITY, OR ACCELERATION
304 C	..Capacitative	489	.Recording or registering interrelated factors
305	..Float	490	.With distance registering means
306	..Combined	491	.With means for retaining reading
307	...With warning signal or alarm	492	..Maximum acceleration
308	....Electric	493	.Structural installation or mounting means
309	..Buoyancy type	494	..Installed in rotary speed source
310	..Total registering	495	.Indicating diverse conditions
311	..Multiple floats	496	.Vibration control or antistick means for reading structure
312	..Recording		
313	..With electrically controlled indicator		
314	..With position sensing		
315	..With float lock		
316	..With fluid transmission		
317	..Pivoted float arm		
318	...With flexible cable transmission		

497	.Temperature compensator	513	.With manual control
498	.Adjusting means for reading structure	514.01	.Acceleration determination utilizing inertial element
499	.Illuminated reading device	514.02	..Angular acceleration
500	.Liquid surface is or moves reading means	514.03	...Fluid or fluent inertial mass (e.g., electrons, ions, plasma)
501	..Surface of revolving liquid body	514.04	...Inertial flywheel
502	.Externally connected pressure gauge gives reading	514.05	..Fluid or fluent material
503	.Means integrating time and acceleration	514.06	...Fluid or fluent material support of an inertial element
503.3	..Gyroscope	514.07	....Gas
504.01	.Angular rate using wave or beam motion (e.g., Sagnac type)	514.08	....Magnetic fluid
504.02	.Angular rate using gyroscopic or Coriolis effect	514.09	...Fluid or fluent inertial mass
504.03	..Multisensor for both angular rate and linear acceleration	514.11	...Detection by fluid pressure
504.04	..Vibratory mass	514.12	...Fluid or fluent material dampening of an inertial element
504.05	..Fluid or fluent inertial mass (e.g., electrons, ions, plasma)	514.13	....Gas
504.06	...Fluid jet	514.14	..Specific type of dampener (e.g., eddy current dampener)
504.07	...Rotary	514.15	..Spinning or vibrating accelerometer
504.08	..Rotary gyroscope	514.16	..Specific type of electric sensor or specific type of magnetic sensor
504.09	..Gimbal support	514.17	...Rebalance
504.11	..Flexible rotor or flexibly mounted rotor	514.18	....Electrostatic restoring means
504.12	..Vibratory mass	514.19	....Radiant energy sensor (e.g., optical, charged, or radioactive particle)
504.13	...Hollow circular-shaped inertial element	514.21	....Pendulum or beam
504.14	...Elongated element with spaced supports	514.22	.....Including a bearing support
504.15	...Cantilever	514.23	.....Including a flexure support
504.16	....Tuning fork	514.24	...Including an elastic support for an inertial element (e.g., spring)
504.17	.Angular rate using a fluid vortex rate sensor	514.25	...Charged particle or radioactive particle sensor
504.18	.With rotary gyroscope	514.26	...Optical sensor
506	.Means integrating intermittent speed source impulses	514.27	....Frequency or phase shift
507	.Comparison to a fixed standard, master or reference speed device	514.28	...Surface acoustical wave
508	.With governor drive failure responsive means	514.29	...Having a vibrating element
509	.With response to a nonspeed condition	514.31	...Inductive or magnetic sensor (e.g., Hall effect sensor)
510	.Response to multiple sensing means or motion conditions	514.32	...Capacitive sensor
511	..Response to both velocity and acceleration	514.33	...Resistive sensor
512	...Centrifugal-type velocity sensor and separate inertial means	514.34	...Piezoelectric sensor
		514.35	..Electric
		514.36	..Pendulum or beam
		514.37	...Including a pivot support
		514.38	..Including an elastic support for an inertial element (e.g., spring)

514.39	.Magnetic speed measuring or mechanical speed measuring with ancillary magnetic means or with ancillary electrical means	386 387 700 701 702	.Aneroid ..Settable FLUID PRESSURE GAUGE .Null balance type .Vibration type
519.01	..Eddy current drag means (e.g., drag cup)	703	..Ultrasonic
520.01	..With a flux adjusting means	704	..Vibrating strip or wire
521	.Fluid	705	.Photoelectric
522	..Dampening means	706	.With protective separator
523	..Expansible chamber devices	707	.With fluid pulsation dampener
524	..Fluid coupling or torque convertor type	708 709	.With pressure and/or temperature compensation .With excess or maximum registering
525	..Brake (e.g., vanes in air)	710	.With steam trap
526	.With dampening or shock- absorbing means	711	.With variable drive
527	.With input means	712	.With recorder
528	..Selective speed transmitter	713	.With float
529	..Frictional (e.g., friction wheels)	714	.Combined
530	.With output transmitting mechanism	715	.Diaphragm
531	..With transmission adjustment means	716 717	..Multiple and/or differential ...With electrical readout
532	..Gear	718	....Capacitive
533	..Rectilinear rack	719	....Resistive
534	..Surface and follower	720	.....Strain gauge
535	.Centrifugal weight type	721	.....Piezoresistive
536	..Weight lever arm or pivot automatically variable during operation	722 723 724	....Electromagnetic ..With electrical readout ...Capacitive
537	..Bias automatically variable during operation	725 726 727	...Resistive....Strain gauge.....Piezoresistive
538	...Snap action	728	...Electromagnetic
539	..Limit stop for weight	729.1	..Bellows
540	..With adjusting means	729.2	..Capsule
541	...Diverse	730	..Expansible conduit
542	...Biasing weight	731	..Sack
543	...Lever or gear adjustor	732	.Bourdon
544	..Adjusting screw means and bias spring concentric to centrifugal axis	733 734 735	..With electrical readout ...Resistive ...Electromagnetic
545	...Spring and adjustor connect paired weights	736 737	..Multiple and/or differential ..Intermediately supported
546	..Leaf spring biasing means	738	..Safety pressure release casing
547	..Toggle joint mounted	739	..With mechanism dampening
548	..Radially projecting striker type	740 741	..With zeroizing adjustment ..Bourdon tube and mounting
549	..Rigid mass crossing axis at an acute angle	742 743	...Helical Bourdon tube ...Spiral Bourdon tube
550	..Weighted bell crank lever type	744	.Piston
551	..Surface and follower (e.g., cam or weight as wedge)	745 746	..With electrical readout ...Resistive
384	BAROMETER (E.G., ALTIMETER)	747	.U-tube liquid column
385	.Mercury	748	..Sphygmomanometer

749	..With electrical readout	863.84	...Expansible chamber
750	...Resistive	863.85	..Lock or seal for sampler insertion or removal
751	.Balance	863.86	..Valve or restriction
752	.McLeod type	863.91	.Conveyor coating
753	.Electrical	863.92	..Integral with conveyor structure
754	..Semiconductor	864	.Capture device
755	..Pirani type	864.01	..Pipette or cannula
756	.Mounting and connection	864.02	...Self-filling of self-limiting
863	SAMPLER, SAMPLE HANDLING, ETC.	864.03	...With user mouth protection
863.01	.Automatic control	864.11	...With suction applying and liquid discharge means
863.02	..Quantity or rate of flow responsive	864.12	....With separate diluent supply
863.03	...Rate of sample flow continuously controlled	864.13	....Piston within pipette
863.11	..With heating or cooling	864.14	....With particular connection or release means
863.12	..And separation	864.15	....With valve for connection to external pressure source
863.21	..With constituent separation	864.16	....Piston and cylinder
863.22	..Particle impact	864.17	.....Plural
863.23	..Sieve, filter, or semipermeable membrane	864.18	.....Plural or adjustable limit stops
863.24	...Cleaning	864.21	...With sample supply to analyzer
863.25	...Changing feature	864.22	...With pipette contacting second fluid supply
863.31	.Plural parallel systems	864.23	...Pipette fixed; source movable
863.32	..Pipette	864.24	...Pipette longitudinally movable
863.33	..Plural capture, single receiver	864.25	....And transversely movable
863.41	.Flow divider, deflector, or interceptor	864.31	..With capture device transporter
863.42	..Attached to mouth of dumpable receptacle	864.32	...Cyclically operated scoop
863.43	..Having precapture flow guide or homogenizer	864.33	..Capture by fluid current
863.44	...Oscillating or reciprocating	864.34	..Sample meter or pump
863.45	...Rotary	864.35	...Chamber with alternate pressure or vacuum applier
863.51	..Having an upstream-facing- opening-type capture element	864.41	..Cutter, tearer, or scraper
863.52	...With receptacle	864.42	...Jaw
863.53	....Mounted for flow zone traverse	864.43	...Auger or drill
863.54	...Mounted for reciprocation	864.44	...Corer
863.55	...Oscillating	864.45	....With corer advancing means
863.56	...Rotary	864.51	..Receptacle type
863.57	...With blocking means	864.52	...Preevacuated
863.58	...Pitot tube type	864.53	...Mold
863.61	..Branched conduit	864.54	....With suction applier
863.71	.Conduit or passageway section capture chamber	864.55	....With diminutive fill passageway
863.72	..Single valve unit	864.56	.....Mating sections
863.73	...Capture chamber within valve unit	864.57	.....Labyrinth
863.81	..Withdrawing through conduit or receptacle wall	864.58	....With sample conditioner
863.82	..Capture element movable to plural loci	864.59	....With holder or connector
863.83	..With metering means or pump	864.61	...Fluid displacement
		864.62	...Expansible chamber
		864.63	...With valve or closure
		864.64	....Side opening

864.65Contact actuated
 864.66Support force or inertia actuated
 864.67Messenger actuated
 864.71 ..Material for particulate adhesion
 864.72 ..Capillary attraction retention
 864.73 ..Conduit
 864.74 ...With penetrating means
 864.81 .Analyzer supplier
 864.82 ..Having sample capsule support
 864.83 ..Having sample confining chamber
 864.84 ...Connector for separable holder
 864.85 ..Connector for separable holder
 864.86 ...Septum structure
 864.87 ...Syringe with connector
 864.91 .Sample holder
 426 **MEASURING VESSEL**
 427 .With depth indication
 428 ..Removable indicator
 429 .Capacity adjustable
 430 **INSTRUMENT MECHANISM DAMPENING**
 431 **INSTRUMENT CASING**
 865 **MASS**
 865.1 **HUMAN STRESS LIMIT (E.G., DECOMPRESSION GAUGE FOR DIVERS)**
 865.2 **HYDRAULIC ALTIMETER**
 865.3 **TESTING BY IMPARTING MOTION**
 865.4 **ANALYZING BODILY MOVEMENT (E.G., SKILLS OR KINETICS OF HANDWRITING)**
 865.5 **PARTICLE SIZE**
 865.6 **SIMULATED ENVIRONMENT (E.G., TEST CHAMBERS)**
 865.7 **TOUCH OR TASTE**
 865.8 **INSPECTING**
 865.9 **TESTING OF APPARATUS**
 866 **TESTING OF MATERIAL**
 866.1 **INSTRUMENT MECHANISM OR TRANSMISSION**
 866.2 .Rate of change
 866.3 **DISPLAY OR DISPLAY DEVICE DETAILS**
 866.4 **SPECIMEN MODEL OR ANALOG**
 866.5 **PROBE OR PROBE MOUNTING**
 432.1 **MISCELLANEOUS**

CROSS-REFERENCE ART COLLECTIONS

900 **AUTOMATIC GAIN CONTROL**
 901 **DIGITAL READOUT**

FOREIGN ART COLLECTIONS**FOR 000 CLASS-RELATED FOREIGN DOCUMENTS**

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

FOR 100 BORE HOLE AND DRILLING STUDY (73/151)

FOR 101 .Drill depth-rate (73/151.5)

FOR 102 .Formation logging (73/152)

FOR 103 ..By drill mud or core analyst (73/153)

FOR 104 ..Thermal (73/154)

FOR 105 .Fluid intrusion, theft of flow study (73/155)

FOR 106 POWER PLANT OR UNIT EFFICIENCY (73/112)

FOR 107 .Automobile fuel consumption (73/113)

FOR 108 ..Miles per gallon (73/114)

FOR 109 .Pressure derivative (73/115)

FOR 110 MOTOR AND ENGINE TESTING (73/116)

FOR 111 .With vehicle supporting roller or belt (73/117)

FOR 112 .Utilizing a test chamber or tank to simulate operating conditions (73/117.1)

FOR 113 .Disparate tests under operating conditions (73/117.2)

FOR 114 ..With continuous operation (73/117.3)

FOR 115 .Thrust measurement (e.g., jet engine) (73/117.4)

FOR 116 .Testing auxiliary unit (73/118.1)

FOR 117 ..Intake air flow (73/118.2)

FOR 118 .Motor part (73/119)

FOR 119 ..Piston Ring (73/120)

DIGESTS

- DIG 1 VIBRATION
- DIG 2 MAGNETOSTRICTIVE
- DIG 3 HALL EFFECT
- DIG 4 PIEZOELECTRIC
- DIG 5 LIQUID LEVELS WITH MAGNETIC
TRANSMISSION
- DIG 8 FLUID CIRCUITS
- DIG 9 MOLTEN METAL SAMPLERS
- DIG 10 INSTRUMENT MECHANISMS WITH
ACCELERATION COMPENSATION
- DIG 11 PHOTOELECTRIC CELL

